

Claims

What is claimed is:

- 5 1. A method comprising the steps of:
creating a track profile for at least one track of a plurality of tracks
using error signals for the at least one track;
creating an adjacent track profile for a track adjacent to the at least
one track using error signals for the adjacent track; and
10 determining a head positioning profile for the at least one track
using the track profile and the adjacent track profile.
2. The method of Claim 1, wherein each track profile is a PES RRO
track profile.
- 15 3. The method of Claim 1 further comprising the step of creating a
second adjacent track profile for a second track adjacent to the at least one
track using error signals for the second adjacent track, wherein the
determining step also uses the second adjacent track profile.
- 20 4. The method of Claim 3, wherein a track profile is represented by WI ,
the at least one track is represented by n , the track adjacent to the at least
one track is represented by $n-1$, and the second track adjacent to the at least
one track is represented by $n+1$, the head positioning profile is represented
25 by $ZAP(n)$, and wherein $ZAP(n) = -WI(n) - \alpha * [WI(n-1) + WI(n+1)]$,
where α is a number between 0 and 1.
5. The method of Claim 4, wherein α is substantially equal to 0.5.

6. A method of compensating for positioning errors in a data storage device, comprising the step of:

using track profile information for a track being ZAPed in addition to track profile information for a track adjacent to the track being ZAPed
5 when ZAPing the track.

7. The method of claim 6, further comprising a step of selectively ZAPing particular tracks on the data storage device based upon whether a given tracks' maximum profile exceeds a predetermined threshold value.

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8. The method of Claim 6, wherein track profile information for another track adjacent to the track being ZAPed is also used when ZAPing the track.

15 9. The method of Claim 6, wherein the track is ZAPed according to $ZAP(n) = -WI(n) - \alpha * [WI(n-1) + WI(n+1)]$, wherein $WI(n)$ is the track profile information for track n , $WI(n-1)$ is the track profile information for the track adjacent to the track being ZAPed, $WI(n+1)$ is the track profile information for the another track adjacent to the track being ZAPed, and
20 wherein α is a numeric value between 0 and 1.

10. The method of Claim 9 wherein α is substantially equal to 0.5.

11. A system for compensating for positioning errors in a data storage device having a plurality of tracks by zero acceleration processing (ZAP),
25 comprising:

means for selectively determining which of the plurality of tracks to ZAP; and

means for ZAPing at least one of the selectively determined tracks
30 using a track profile of the track being ZAPed in addition to a track profile

of a track adjacent to the track being ZAPed to generate a head positioning profile for the at least one track.

12. The system of Claim 11, wherein each track profile is a PES RRO
5 track profile.